

FRS Two-way Radio

Operating Instructions

ICB-U655 **U-CEIVER**

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SONY®

Tape Cassette Player/Recorder/CD Player/Mini Disc
DAT/Radio/Head Phone/Speaker/MIC/Personals

Portable Audio

LIMITED WARRANTY

Sony Electronics Inc. (“Sony”) warrants this Product (including any accessories) against defects in material or workmanship as follows:

1. LABOR: For a period of one (1) year from the date of purchase, if this Product is determined to be defective, Sony will repair or replace the Product, at its option, at no charge, or pay the labor charges to any Sony authorized service facility. After the Warranty Period, you must pay for all labor charges.

2. PARTS: In addition, Sony will supply, at no charge, new or rebuilt replacements in exchange for defective parts for a period of one (1) year. After the warranty period, you must pay for all parts costs.

3. ACCESSORIES: Parts and labor for all accessories are for one (1) year.

To obtain warranty service, you must take the Product, or deliver the Product freight prepaid, in either its original packaging or packaging affording an equal degree of protection, to any authorized Sony service facility.

This warranty does not cover customer instruction, installation, set up adjustments or signal reception problems.

This warranty does not cover cosmetic damage or damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or modification of, or to any part of the Product, including the antenna. This warranty does not cover damage due to improper operation or maintenance, connection to improper voltage supply, or attempted repair by anyone other than a facility authorized by Sony to service the Product. This warranty does not cover Products sold AS IS or WITH ALL FAULTS, or consumables (such as fuses or batteries). This warranty is valid only in the United States.

Proof of purchase in the form of a bill of sale or receipted invoice which is evidence that the unit is within the Warranty period must be presented to obtain warranty service.

This warranty is invalid if the factory applied serial number has been altered or removed from the Product.

REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY OF THE CONSUMER. SONY SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ON THIS PRODUCT. EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ON THIS PRODUCT IS LIMITED IN DURATION TO THE DURATION OF THIS WARRANTY.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. In addition, if you enter into a service contract with the Sony Partnership within 90 days of the date of sale, the limitation on how long an implied warranty lasts does not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

For your convenience, Sony Electronics Inc. has established telephone numbers for frequently asked questions:

To locate the servicer or dealer nearest you, or for service assistance or resolution of a service problem, or for product information or operation, call:

Sony Direct Response Center
1-(800)-222-7669
or write to:
Sony Direct Response Center
12451 Gateway Blvd.
Fort Myers, FL 33913

For an accessory or part not available from your authorized dealer, call:

1-(800)-488-SONY (7669)

Owner’s record

The model and serial numbers are located in the battery compartment. Record the serial number in the space provided below. Refer to them whenever you call your Sony dealer regarding this product.

Model No. ICB-U655
Serial No. _____

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

INFORMATION

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

- (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND
- (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIREED OPERATION.

Warning

Never use this unit while skiing or during any other sport activity as it may lead to accidents or injury.

Never use this unit in an airplane, as the electromagnetism from the unit may endanger flight safety.

Caution

Never use this unit near medical equipment without confirming safety and consent from due authorities. The electromagnetism from the unit may interfere with the equipment. In hospitals or in other medical facilities, turn off the power of this unit where use is prohibited.

Before You Begin

Thank you for choosing the Sony FRS Two-way radio! The unit will give you many hours of reliable service. Before operating the unit, please read these instructions thoroughly and retain them for future reference.

Features

The ICB-U655 is an FRS (Family Radio Service) two-way radio and can be used without any licences or qualifications within the United States.

- A transmitting output of 500 mW, with 14 channels. Can communicate with other FRS two-way radios with the same frequency channels.
- Handy size, easy to operate.
- Group Talk feature — Allows you to communicate only with units on the same channel with the same group number, including other models with the same feature.
- Search feature — Automatically searches for unused channels and calls up members of your group.
- 180° rotating antenna for convenience and compactness.
- Liquid Crystal Display to show operation status.

Precautions

Placement

- Do not leave the unit near heat sources, such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, humidity, rain, mechanical vibration or shock. Do not leave the unit in a car parked in the sun, especially in the summer.
- In vehicles or in buildings, transmission and reception may be difficult or noisy. Try using the unit near a window.

Safety

- Operate the unit on 4.5 V DC. For battery operation, use three size AA (R6) batteries. For car battery operation, use only the car battery cord recommended for this unit (not supplied). Do not use any other car battery cord.
- When the unit is not to be used for a long time, remove the batteries to avoid possible damage caused by undue battery discharge, leakage or corrosion.
- The nameplate indicating operating voltage, etc. is located at the rear exterior.
- Should any solid object or liquid fall into the unit, remove the batteries and have the unit checked by qualified personnel before operating it any further.
- Since a strong magnet is used for the speaker, metallic objects such as pins, etc. may cling to the unit. Keep personal credit cards using magnetic coding or spring-wound watches away from the unit to prevent possible damage from the magnet.
- When the casing becomes soiled, clean it with a soft cloth dampened with mild detergent solution. Never use abrasive cleansers or chemical solvents, as they may mar the casing.
- Keep the unit away from metallic objects.
- Handle the antenna with care, so as not to bend or break it.

Notes on using the two-way radio



- Use this unit only within the United States of America in accordance with the regulations governing two-way radios in the United States of America.
- Do not use this unit near a TV set, radio, or any type of broadcast station, as it may cause interference.
- You are warned that your transmission could be heard by some other party.
- Do not disclose or use the transmission of other parties in any form.
- Two-way radios are not protected from interference by broadcast stations or other high frequency facilities.

If you have any questions or problem concerning your unit, please consult your nearest Sony dealer.

Troubleshooting

Should any problem persist after you have made the following checks, consult your nearest Sony dealer.

- The power turns off unexpectedly.**
- The unit turned itself off by the Auto Power Off function (i.e., there was no reception or the unit was left unoperated for about 6 hours). Press POWER to turn the unit on again.
 - The batteries have gone out. Replace all batteries with new ones.

- The power does not turn on.**
- The batteries are not inserted with correct polarity.
 - The batteries are weak. Replace all batteries with new ones.
 - Key protection is active (“”) is displayed). Press LIGHT/BATT/ for 2 seconds or longer and disable key protection.
 - The car battery cord is not connected securely.

- Display is dim.**
- The batteries are weak.
 - The unit is being used in excessive heat or humidity.

- There is no sound at all.**
- The volume is turned down completely. Adjust with VOL.

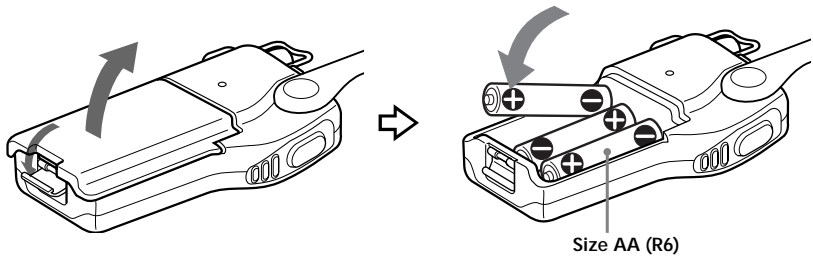
- You cannot establish contact with the member(s) of your group.**
- You are on a different channel (in the Basic mode or the Group Talk mode).
 - You are on a different group number (in the Group Talk mode or the Search mode).
 - You are too distant from each other. See “On effective range”.

Specifications

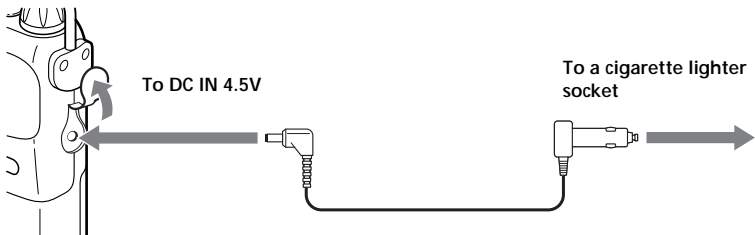
- Operating frequency**
462.5625 - 462.7125 MHz
467.5625 - 467.7125 MHz
14 channels
- Antenna**
Whip antenna
- Communicating system**
Press-to-talk system (single transmission)
- Modulation**
F3E
- Transmitting output**
500 mW
- Reception**
Double superheterodyne system
- Speaker**
Approx. 3.6 cm (1 ⁷/₁₆ inches) dia., 4 ohms
- Power output**
100 mW (at 10% harmonic distortion)
- Power requirements**
4.5V DC, three size AA (R6) batteries
- External power source**
DC IN 4.5V jack accepts:
12V/24 V car battery with the recommended Sony car battery cord (not supplied)
- Auto Power Off**
Approx. 6 hours
- Dimensions**
Approx. 60 × 101 × 29.5 mm (w/h/d) (2 ³/₈ × 4 × 1 ³/₁₆ in.) not incl. projecting parts and controls
- Mass**
Approx. 165 g (5.9 oz.) incl. batteries and a belt clip
- Supplied accessory**
Belt holder (1)
- Optional accessories**
Speaker microphone CBM-20

Design and specifications are subject to change without notice.

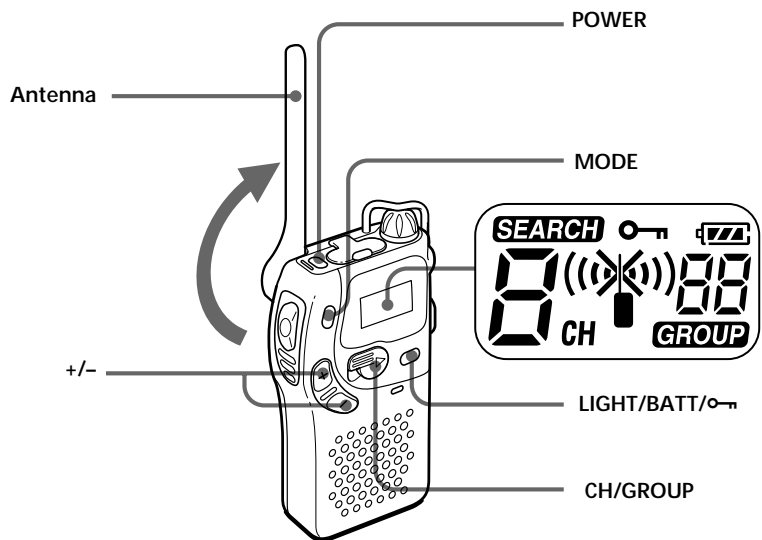
A



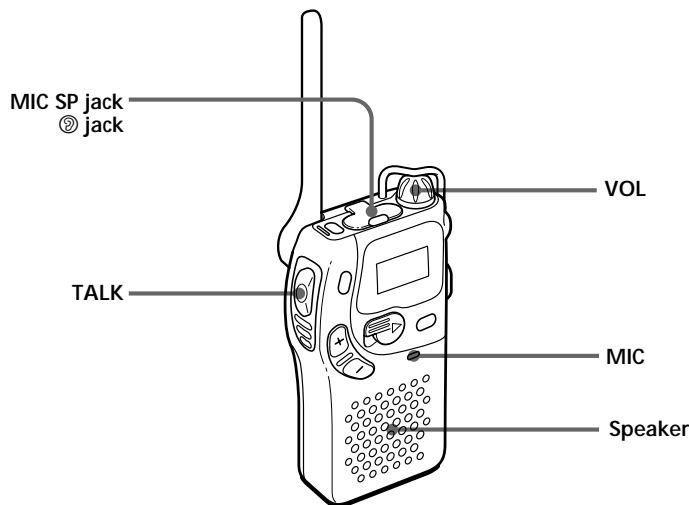
B



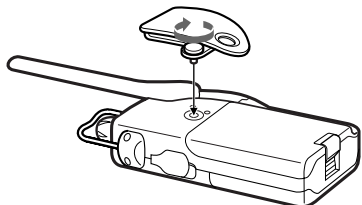
C



D



E



Power Sources

The unit can be powered by batteries or a car battery.

Installing Batteries (See Fig. A)

Flip up the antenna and detach the belt clip if attached before inserting the batteries.


- 1 Open the lid of the battery compartment.
- 2 Insert three size AA (R6) batteries (not supplied) with correct polarity as shown in the illustration.
- 3 Close the lid.

Battery life

Using size AA (LR6) Sony alkaline batteries: Approximately 40 hours*

* Battery life when the unit is used continuously, repeating sets of 30-second transmission, 30-second reception, and a 9-minute Power-Save standby. Battery life varies with temperature conditions, and may be shorter especially in colder areas.

When to replace the batteries





When  flashes in the display, replace all three batteries with new ones.

When the batteries have been replaced

Your current channel and group number setting will be erased. Set them again.

To check battery power

Press LIGHT/BATT/ON/OFF lightly (shorter than 2 seconds) when the power is turned on. The battery power indication will light up for about 15 seconds, and then disappear. Press again to turn off the display manually.

-  Battery power is sufficient.
-  Battery power is decreasing.
-  There is little battery power. The battery warning beep will start to sound.
-  Replace the batteries.

When the radio turns off unexpectedly

If there is no reception for 6 hours, or if you did not press any key (except LIGHT/BATT/ON/OFF) for 6 hours, the unit will beep several times and then shut itself off to prevent unnecessary wear of the batteries (Auto Power Off function). To turn the unit on again, press POWER. If the power does not turn on by pressing POWER, or if the radio turns off unrelated to the Auto Power Off function, the batteries are exhausted. Replace them with new ones.

Car battery (See Fig. B)

Connect the recommended Sony car battery cord (not supplied).

- For details, see the Operating Instructions of the car battery cord.
- The display will light up when the unit is powered by the car battery.
- When the DC IN 4.5V jack is not being used, close the rubber cap securely to ensure water-resistance.

Notes

- The unit will not run on batteries as long as the DC IN 4.5V jack is plugged in.
- Use only the recommended car battery cord. Using any other car battery cord may cause damage to the unit.



Polarity of the plug

Operation

The unit has three transmission modes: the Basic mode, Group Talk mode and the Search mode. The explanation here is for the Basic mode. For the other transmission modes, see "Switching transmission modes".

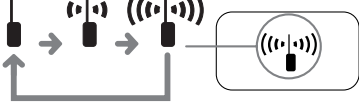
For the Basic mode, you first need to decide on a channel number with the member(s) of your group.

Preparation (See Fig. C)

- 1 Flip up the antenna.
The antenna rotates 180 degrees. Adjust the antenna so that it is vertical to the ground.
- 2 Press POWER to turn on the power.
If "ON" is displayed, key protection is active. Press LIGHT/BATT/ON/OFF for 2 seconds or longer to disable key protection.
- 3 Press MODE repeatedly so that neither **SEARCH** nor **GROUP** is displayed.
The unit goes into the Basic mode.
- 4 Switch CH/GROUP to CH, and press +/- to select the channel.

Set the unit to the same channel as your group member(s). Each press of + or - will increase or decrease, respectively, the channel number by one. Hold down either button to change the channel continuously.

Transmission (See Fig. D)

- 1 To transmit, hold down TALK and speak into the MIC (microphone).
Keep the MIC at about 2 inches from your mouth and speak in your normal voice.
During transmission, the transmission status indicator will repeat the following indication.

- 2 To receive, release TALK.
Adjust the reception volume with VOL.

To continue transmission

Repeat the steps for transmission above. Notify the person at the other end that you are switching to reception with the word "over". Then, release TALK. When the person on the other end finishes with "over", hold down TALK again to respond.


On the Power-Save mode

When there is no reception for about 8 seconds during the reception mode, the unit automatically goes into the Power-Save mode, and will consume less battery power. The unit will automatically exit the Power-Save mode when there is reception.


To end transmission

Notify the person on the other end that you are ending the transmission with the word "out". Press POWER to turn off the power. If "ON" is displayed, press LIGHT/BATT/ON/OFF for 2 seconds or longer to disable key protection, and then turn off the power.

To use a speaker microphone or an earphone

Connect an optional speaker microphone to the MIC SP jack. Connect an optional earphone to the  jack (see the respective Operating Instructions for details).

Notes

- Do not plug in any other equipment than the recommended Sony U-ceiver accessories (not supplied) to the MIC SP or the  jack even if the plug seems to be similar, as it may cause damage to the unit.
- When the jacks are not in use, close the rubber cap securely to ensure water-resistance.

Switching transmission modes

This unit has three transmission modes. Select according to situation.

Basic mode	When there is no interference.
Group Talk mode	When there is interference by other groups using the same channel.
Search mode	When you have trouble finding an unused channel.

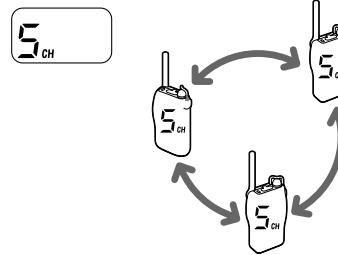
Each press of MODE will change the transmission mode as follows:



Basic mode

- 1 Decide on a channel number (1 to 14) with the member(s) of your group.
- 2 Press MODE repeatedly so that neither **SEARCH** nor **GROUP** is displayed.
The unit goes into the Basic mode.
- 3 Switch CH/GROUP to CH and press +/- to select the channel.
- 4 Transmit.

Example: When using channel number 5



You can talk with anyone with a Sony or other FRS two-way radio that is within the effective range and is set to the same channel.

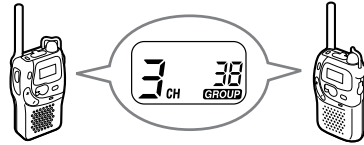
In the Basic mode, you can hear transmission by any other two-way radio on the same channel that is within the effective range.

Group Talk mode

In the Group Talk mode, the unit communicates only with other units that are on the same channel and the same group number.

- 1 Decide on a channel number (1 to 14) and a group number (1 to 38) with the member(s) of your group.
- 2 Press MODE repeatedly so that **GROUP** is displayed and **SEARCH** is not displayed.
The unit goes into the Group Talk mode.
- 3 Switch CH/GROUP to CH and press +/- to select the channel.
- 4 Switch CH/GROUP to GROUP and press +/- to select the group number.
- 5 Transmit.

Example: When using channel number 3, group number 38.



When there are a number of groups on the same channel, you can block out transmission of other groups by switching to the Group Talk mode. (Transmission of other groups may still interfere, however, if the other groups use the same channel and group number).

Search mode

In the Search mode, the unit will search for an unused channel and call up the members of your group (i.e., other users with their ICB-U655s set to the Search mode and to the same group number). After first setting the group number, you need to initiate Search by sending the call signal.

Setting the group number

- 1 Decide on a group number (1 to 38) with the members of your group.
- 2 Press MODE repeatedly so that both **SEARCH** and **GROUP** are displayed.
The unit goes into the Search mode.
- 3 Switch CH/GROUP to GROUP and press +/- to select the group number.

Example: When using group number 38.



The channel number will go into the Search standby status, and the segments of the channel number display will light up in a rotating motion.

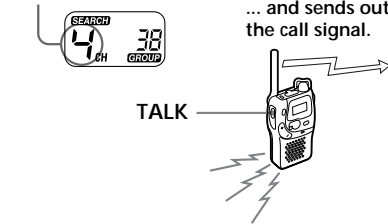


Initiating Search

- 1 Hold down TALK.

The unit searches for an unused channel. When the unit finds an unused channel, it rings and sends off a call signal to other members of your group.

Stops at an unused channel...

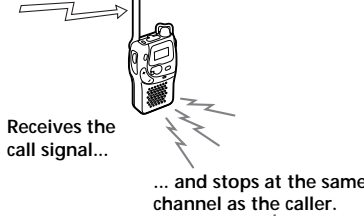


- 2 Release TALK when your unit rings.

The ring will continue for about 10 seconds. To stop the call signal manually, press TALK again. The ringing will stop.

When you receive the call signal

Your unit switches automatically to the same channel with the unit that sent the call signal, and will ring. The ring will continue for about 10 seconds.



Let the ring sound for about 5 seconds, then hold down TALK to respond.

- If you do not answer the call while the unit is ringing, the unit goes back to Search standby status.

When the transmission is terminated, the unit goes back to Search standby status in about 10 seconds.

Note

The Search system does not work with models other than the ICB-U655.

On channels

Two-way radios can only locate other units that are on the same channel. Please note that the frequency range may differ with the model of the two-way radio.

On effective range

The effective range of the unit depends upon operating conditions, but should cover about 2 miles in suburban areas, with full battery power. Clarity of transmission may worsen at locations with heavy car or railroad traffic.

On transmission modes, channel and group number settings

When the unit is turned on by pressing POWER, the transmission mode, channel and group number settings for the previous transmission will be displayed. If, however, the batteries have been replaced or the car battery cord have been plugged or unplugged from the DC IN 4.5V jack since the last transmission, the channel and group number may change to 1.

Notes

- You cannot transmit and receive at the same time on this unit, as with telephones.
- Do not touch the antenna during operation, as this may reduce sensitivity.

Other features

Key protection

Press LIGHT/BATT/ON/OFF for 2 seconds or longer while the power is on.

"ON" will light up in the display, and the unit will not accept any key operation than the TALK button and this key.

- If LIGHT/BATT/ON/OFF is pressed for 2 seconds or longer while the power is off, the unit will be protected from turning on accidentally.
- Press LIGHT/BATT/ON/OFF again for 2 seconds or longer to disable key protection. "ON" will go off in the display, and the unit will accept all key operation once again.

Attaching the belt holder (See Fig. E)

Screw the belt holder onto the main unit as shown in the illustration.

Select either vertical or horizontal position.